

CLAIMS

What is claimed is:

1. An explosion-inhibiting article of manufacture comprising an apertured sheet material, said sheet material
 - 5 a. being provided with at least one row of a plurality of polygonal apertures, at least one of said polygonal apertures being irregular with respect to at least one adjacent polygonal aperture,
and
 - b. having physical characteristics comprising
 - 10 i. a surface area per unit volume of application of at least about 2,000 times the contact surface of flammable fluids contained in a containing vessel, and
 - ii. a heat conductivity of at least about 0.025 Cal/cm-sec.
2. An explosion-inhibiting article of manufacture in accordance with claim 1, wherein the inner peripheral length of at least one of said apertures is unequal to the inner peripheral length of at
15 least one adjacent aperture.
3. An explosion-inhibiting article of manufacture in accordance with claim 1, wherein the material has a density from about 2.8 g/cm³ to about 19.5 g/cm³.
4. An explosion-inhibiting article of manufacture in accordance with claim 1, wherein said article has a compressive yield of not more than about 10 percent.
- 20 5. An explosion-inhibiting article of manufacture having a generally spheroidal shape and comprising an apertured sheet material, said sheet material
 - a. being provided with at least one row of a plurality of polygonal apertures, at least one of said polygonal apertures being irregular with respect to at least one adjacent polygonal aperture,
25 and
 - b. having physical characteristics comprising
 - i. a surface area per unit volume of application of at least about 2,000 times the contact surface of flammable fluids contained in a containing vessel, and
 - ii. a heat conductivity of at least about 0.025 Cal/cm-sec.
- 30 6. An explosion-inhibiting article of manufacture in accordance with claim 5, wherein the inner peripheral length of at least one of said apertures is unequal to the inner peripheral length of at least one adjacent aperture.

7. An explosion-inhibiting article of manufacture in accordance with claim 5, wherein the material has a density from about 2.8 g/cm^3 to about 19.5 g/cm^3 .
8. An explosion-inhibiting article of manufacture in accordance with claim 5, wherein said article has a compressive yield of not more than about 10 percent.
- 5 9. An explosion-inhibiting article of manufacture having a generally cylindrical shape and comprising an apertured sheet material, said sheet material
- a. being provided with at least one row of a plurality of polygonal apertures, at least one of said polygonal apertures being irregular with respect to at least one adjacent polygonal aperture,
- 10 and
- b. having physical characteristics comprising
 - i. a surface area per unit volume of application of at least about 2,000 times the contact surface of flammable fluids contained in a containing vessel, and
 - ii. a heat conductivity of at least about 0.025 Cal/cm-sec .
- 15 10. An explosion-inhibiting article of manufacture in accordance with claim 9, wherein the inner peripheral length of at least one of said apertures is unequal to the inner peripheral length of at least one adjacent aperture.
11. An explosion-inhibiting article of manufacture in accordance with claim 9, wherein the material has a density from about 2.8 g/cm^3 to about 19.5 g/cm^3 .
- 20 12. An explosion-inhibiting article of manufacture in accordance with claim 9, wherein said article has a compressive yield of not more than about 10 percent.
13. An explosion-inhibiting article of manufacture comprising an apertured sheet material, said sheet material
- a. being provided with at least one row of a plurality of polygonal apertures,
- 25 and
- b. having physical characteristics comprising
 - i. a surface area per unit volume of application of at least about 2,000 times the contact surface of flammable fluids contained in a containing vessel, and
 - ii. a heat conductivity of at least about 0.025 Cal/cm-sec ,
- 30 said article having a compressive yield of not more than about 10 percent.
14. An explosion-inhibiting article of manufacture having a generally spheroidal shape and comprising an apertured sheet material, said sheet material
- a. being provided with at least one row of a plurality of polygonal apertures,
- and

b. having physical characteristics comprising

- i. a surface area per unit volume of application of at least about 2,000 times the contact surface of flammable fluids contained in a containing vessel, and
- ii. a heat conductivity of at least about 0.025 Cal/cm-sec,

5 said article having a compressive yield of not more than about 10 percent.

15. An explosion-inhibiting article of manufacture having a generally cylindrical shape and comprising an apertured sheet material, said sheet material

- a. being provided with at least one row of a plurality of polygonal apertures,
and

10 b. having physical characteristics comprising

- i. a surface area per unit volume of application of at least about 2,000 times the contact surface of flammable fluids contained in a containing vessel, and
- ii. a heat conductivity of at least about 0.025 Cal/cm-sec,

said article having a compressive yield of not more than about 10 percent.

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